Amendments to the Claims

Please amend claims 1, 5 and 11. The currently pending claims after amendment are listed below.

1   1.   (Currently Amended) A method for allocating processor resources in a computer system

2   having a plurality of central processors, comprising the steps of:

3   defining a plurality of logical partitions of said computer system, wherein each task

4   executing in said computer system is assigned to a respective one of said logical partitions;

5   defining a plurality of sets of processors;

6   assigning each central processor of said ~~multi-processor~~ computer system to a respective

7   set of said plurality of processor sets;

8   assigning each logical partition of said plurality of logical partitions to a respective set of

9   said plurality of processor sets, wherein a first processor set of said plurality of processor sets has

10   a plurality of logical partitions assigned to it;

11   assigning a respective processing capacity value to each of said plurality of logical

12   partitions assigned to said first processor set, said processing capacity values representing

13   processing capacity in units equivalent to a fixed number of physical central processors;

14   constraining tasks executing in a each logical partition to execute only in central processors

15   assigned to the processor set to which the respective logical partition is assigned; and

16   constraining tasks executing in said each logical partition assigned to said first processor

17   set to execute for a combined length of time equivalent to the processing capacity value assigned

18   to the respective logical partition.

1   2.   (Original) The method for allocating processor resources of claim 1, further comprising:

2   designating each respective logical partition assigned to said first processor set as either

3   capped or uncapped;

4   wherein, with respect to a logical partition which is designated capped, said step of

5   constraining tasks executing in the logical partition to execute for a combined length of time

6   equivalent to the processing capacity value comprises preventing tasks in the partition from

7   executing if the processing capacity value has been reached; and

8   wherein, with respect to a logical partition which is designated uncapped, said step of

9   constraining tasks executing in the logical partition to execute for a combined length of time

10   equivalent to the processing capacity value comprises preventing tasks in the partition from

11   executing if the processing capacity value has been reached, unless there is unused processing

12   capacity in the first processor set.

1   3.   (Original) The method for allocating processor resources of claim 1, further comprising:

2   assigning a respective number of virtual processors to each of said plurality of logical

3   partitions assigned to said first processor set..

1   4.   (Original) The method for allocating processor resources of claim 1, wherein a second

2   processor set of said plurality of processor sets has a plurality of logical partitions assigned to it,

3   said method further comprising:

4   assigning a respective processing capacity value to each of said plurality of logical

5   partitions assigned to said second set, said capacity values representing processing capacity in

6   units equivalent to a fixed number of physical central processors; and

7   constraining tasks executing in said each logical partition assigned to said second processor

8   set to execute for a combined length of time equivalent to the processing capacity value assigned

9   to the respective logical partition.

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1   5.   (Currently Amended) A computer system, comprising:

2   a plurality of central processing units;

3   a logical partitioning configuration function which receives a user definition of a plurality

4 of logical partitions of said computer system and a plurality of disjoint sets of said central

5 processing units, each logical partition being assigned to a respective one of said plurality of

6 disjoint sets of said central processing units, said logical partitioning configuration function

7 supporting the assignment of a plurality of multiple logical partitions to a single central

8 processing unit set;

9   wherein, with respect to multiple logical partitions assigned to a single central processing

10 unit set, said logical partitioning configuration function receives a user definition of a respective

11 processing capacity value for each of said multiple logical partitions, said processing capacity

12 values representing processing capacity in units equivalent to a fixed number of said central

13 processing units; and

14   a logical partitioning enforcement function which constrains tasks executing in each logical

15 partition to execute only in central processor units of the set of central processing units to which

16 the respective logical partition is assigned, and constrains tasks executing in said each said

17 multiple logical partition assigned to a single central processing unit set to execute for a combined

18 length of time equivalent to the processing capacity value assigned to the respective logical

19 partition.

1   6.   (Original) The computer system of claim 5,

2   wherein each logical partition contains a respective task dispatching function;

3   wherein said logical partitioning enforcement function comprises a respective low-level

4 virtual processor dispatcher for each set of central processing units operating below the level of

5 said task dispatching functions, said task dispatching functions dispatching tasks to virtual

6 processors, said virtual processor dispatchers dispatching said virtual processors to said central

7 processing units.

1   7.   (Previously Presented) The computer system of claim 5,

2   wherein, with respect to multiple logical partitions assigned to a single central processing

3   unit set, said logical partitioning configuration function further receives a user designation of each

4   respective partition as capped or uncapped;

5   wherein, with respect to a logical partition which is designated capped, said logical

6   partitioning enforcement mechanism prevents tasks in the logical partition from executing if the

7   processing capacity value of the logical partition has been reached; and

8   wherein, with respect to a logical partition which is designated uncapped, said logical

9   partitioning enforcement mechanism prevents tasks in the logical partition from executing if the

10   processing capacity value of the logical partition has been reached, unless there is unused

11   processing capacity in the first processor set.

1   8.   (Previously Presented) The computer system of claim 5,

2   wherein, with respect to multiple logical partitions assigned to a single central processing

3   unit set, said logical partitioning configuration function further receives a user designation of a

4   respective number of virtual processors for each such logical partitions; and

5   wherein said logical partitioning enforcement mechanism limits simultaneous execution of

6   tasks of a logical partition of multiple logical partitions assigned to a single central processing

7   unit set to the number of virtual processors assigned to the logical partition.

1   9.   (Previously Presented) The method for allocating processor resources of claim 1, further

2   comprising:

3   altering a processor capacity value of a first logical partition assigned to said first set, while

4   holding a processor capacity value of a second logical partition assigned to said first set constant.

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1   10.   (Previously Presented) The method for allocating processor resources of claim 1, wherein

2   at least one processor set of said plurality of processor sets has only a single logical partition

3   assigned to it.

1   11.   (Currently Amended) A computer program product for allocating processor resources in a

2   computer system having a plurality of central processors, said computer program product

3   comprising a plurality of computer executable instructions recorded on signal-bearing media,

4   wherein said instructions, when executed by a computer, cause the computer to perform the steps

5   of:

6   receiving a definition of a plurality of logical partitions of said computer system, wherein

7   each task executing in said computer system is assigned to a respective one of said logical

8   partitions;

9   receiving a definition of a plurality of sets of processors, wherein each central processor of

10   said computer system is assigned to a respective one of said plurality of sets of processors, and

11   wherein each logical partition of said plurality of logical partitions is assigned to a respective one

12   of said plurality of sets of processors, wherein a first processor set of said plurality of processor

13   sets has a plurality of logical partitions assigned to it;

14   receiving a definition of processing capacity values, wherein a respective processing

15   capacity value is assigned to each of said plurality of logical partitions assigned to said first

16   processor set, said processing capacity values representing processing capacity in units equivalent

17   to a fixed number of physical central processors;

18   constraining tasks executing in a each logical partition to execute only in central processors

19   assigned to the processor set to which the respective logical partition is assigned; and

20   constraining tasks executing in said each logical partition assigned to said first processor

21   set to utilize the processing capacity value assigned to the respective logical partition.

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1   12.   (Previously Presented) The computer program product for allocating processor resources

2   of claim 11, wherein said program product further causes said computer to perform the steps of:

3   receiving a designation of each respective logical partition assigned to said first processor

4   set as either capped or uncapped;

5   wherein, with respect to a logical partition which is designated capped, said step of

6   constraining tasks executing in the logical partition to utilize the processing capacity value

7   assigned to the respective logical partition comprises preventing tasks in the partition from

8   executing if the processing capacity value has been reached; and

9   wherein, with respect to a logical partition which is designated uncapped, said step of

10   constraining tasks executing in the logical partition to utilize the processing capacity value

11   assigned to the respective logical partition comprises preventing tasks in the partition from

12   executing if the processing capacity value has been reached, unless there is unused processing

13   capacity in the first processor set.

1   13.   (Previously Presented) The computer program product for allocating processor resources

2   of claim 11, wherein said program product further causes said computer to perform the steps of:

3   receiving a designation of a respective number of virtual processors for each of said

4   plurality of logical partitions assigned to said first processor set..

1   14.   (Previously Presented) The computer program product for allocating processor resources

2   of claim 11,

3   wherein a second processor set of said plurality of processor sets has a plurality of logical

4   partitions assigned to it;

5   wherein a respective processing capacity value is assigned to each of said plurality of

6   logical partitions assigned to said second set by said step of receiving a definition of processing

7   capacity values, said capacity values representing processing capacity in units equivalent to a

8   fixed number of physical central processors; and

9   wherein tasks executing in said each logical partition assigned to said second processor set

10   to are constrained to utilize the processing capacity value assigned to the respective logical

11   partition.

1   15.   (Previously Presented) The computer program product for allocating processor resources

2   of claim 11, wherein said program product further causes said computer to perform the steps of:

3   altering a processor capacity value of a first logical partition assigned to said first set

4   responsive to user input, while holding a processor capacity value of a second logical partition

5   assigned to said first set constant.

1   16.   (Previously Presented) The computer program product for allocating processor resources

2   of claim 11, wherein at least one processor set of said plurality of processor sets has only a single

3   logical partition assigned to it.

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